

Claims

I claim:

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A 1  
2

1. A method of processing packets in a switch comprising:
  - 2 selecting a first queue from at least three queues in a switch based on the cycle
  - 3 number (C) of a cycle;
  - 4 flushing the first queue at the start of the cycle;
  - 5 receiving at least one isochronous packet over a bus during the cycle;
  - 6 placing the packet in a second queue based on the cycle number.

Stay in bus

formula

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- 1 2. The method of claim 1 further comprising:
  - 2 transmitting the packet from the second queue after two cycles.
- 1 3. The method of claim 1 wherein the first queue is chosen from four queues.
- 1 4. The method of claim 1 wherein the first queue is associated with a cycle that has a  
2 cycle number of C minus 1.
- 1 5. The method of claim 1 wherein the first queue is the same as the second queue.
- 1 6. The method of claim 1 wherein the first queue number is equal to the remainder  
2 of (C-1)/n wherein n is the number of queues in the switch.
- 1 7. The method of claim 1 wherein the second queue number is equal to the  
2 remainder of (C+2)/n wherein n is the number of queues in the switch.

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for

for

8. The method of claim 1 further comprising:  
transmitting packets in cycle  $C$  from a third queue wherein the queue number of  
the third queue is equal to the remainder of  $C/n$  wherein  $n$  is the number of queues in the  
switch.

9. The method of claim 1 further comprising:  
setting a free pointer in the first queue to 0 at the end of the cycle; and  
setting a used pointer in the first queue to 0.

10. The method of claim 1 further comprising:  
setting a used pointer in the second queue to 0 at the end of the cycle; and  
setting a free pointer in the second queue to  $n$ .

11. A system of processing packets in a bus switch comprising:  
means for storing data in queues;  $G$   
means for selecting appropriate queuing means for each set of incoming data;  $C$   
means for directing the set of incoming data to the appropriate queuing means;  $B$   
and  
means for flushing data from the queuing means.  $f$

12. The system of claim 11 further comprising means for receiving the incoming data  
and wherein the incoming data includes isochronous packets.

13. A switch in a network comprising:  
a buffer memory including at least three egress queues; and

3 a processor configured to direct incoming isochronous packets into one of the  
4 egress queues based on a cycle number of the switch and configured flush another of the  
5 egress queues based on the cycle number.

1 14. The switch of claim 13 wherein the switch is configured to be used with at least  
2 one bus.

1 15. The switch of claim 13 wherein the switch is configured to be used with a  
2 connection selected from the group: ethernet bus, asynchronous transfer mode bus, and  
3 IEEE 1394 standard bus.

1 16. The switch of claim 13 further comprising:  
2 at least one ingress port; and  
3 at least one egress port  
4 wherein each egress port is associated with at least three egress queues.

1 17. The switch of claim 16 wherein the egress queues store data to be transmitted by  
2 the processor from each egress port.

1 18. The switch of claim 13 wherein the buffer memory includes four queues.

1 19. The switch of claim 13 wherein the processor is configured to direct the incoming  
2 isochronous packets into the egress queue number equal to the remainder of  $(C + 2)/n$   
3 wherein  $n$  is the number of queues in the switch.

1 20. The switch of claim 13 wherein the processor is configured to flush the egress  
2 queue number equal to the remainder of  $(C - 1)/n$  wherein  $n$  is the number of queues in  
3 the switch.

1 21. The switch of claim 13 wherein the processor is configured to transmit the  
2 isochronous packets from the egress queue number equal to the remainder of  $C/n$  wherein  
3  $n$  is the number of queues in the switch.

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